

DOCKET NO. 2001.11.010.WT0
U.S. SERIAL NO. 09/930,665
PATENT

REMARKS

Claims 1-20 were originally filed in the present application.

Claims 1-20 are pending in the present application.

Claims 1-20 were rejected in the March 8, 2006 Office Action.

No claims have been allowed.

Claims 15 and 20 have been amended herein.

Claims 1-20 remain in the present application.

Reconsideration of the claims is respectfully requested.

In Sections 2 and 3 of the March 8, 2006 Office Action, the Examiner provides a response to Applicants' Reply dated January 23, 2006. Specifically, the Examiner refused to withdraw the obviousness rejection for some of the claims with respect to U.S. Patent No. 6,091,733 to *Takagi, et al.* (the "Takagi I reference") in view of U.S. Patent No. 6,272,148 to *Takagi, et al.* (the "Takagi II reference"). Similarly, the Examiner refused to withdraw the obviousness rejection to U.S. Patent No. 6,212,190 to *Mulligan, et al.* (the "Mulligan reference") in view of an article entitled, "Adaptive Frame Length Control for Improving Wireless Link Throughput, Range and Energy Efficiency" by *Lettieri, et al.* (the "Lettieri reference.") Applicants respectfully disagree and traverse the Examiner's arguments in support of the response.

In Section 4 of the March 8, 2006 Office Action, the Examiner withdrew the anticipation rejection and obviousness rejection to Claims 1-14 with respect to U.S. Patent No. 6,721,334 to *Ketcham* (the "Ketcham reference"). Applicants thank the Examiner for this withdrawal. Also, in

DOCKET NO. 2001.11.010.WT0
U.S. SERIAL NO. 09/930,665
PATENT

Section 4, the Examiner refused to withdraw the obviousness rejection to Claims 15-20 with respect to the Ketcham reference. Applicants respectfully disagree and traverse the Examiner's arguments in support of the rejection.

In Sections 5 and 6 of the March 8, 2006 Office Action, the Examiner rejected Claims 1, 3-8 and 10-14 as unpatentable over the Takagi I reference in view of the Takagi II reference. Applicants respectfully disagree.

As an example, referring to Claim 1, the Examiner contends that it would be obvious to modify the Takagi II reference to include a wireless interface. Applicants respectfully disagree. Wireless links typically employ a maximum transmission unit size (MTU) that is less than the typical MTU used in hard-wired or land line network connections. Moreover, because smaller MTUs would congest network hosts and all intermediate routers, a wireless system, unlike systems that are hard-wired, would require several system updates. These system updates may include, for example, the use of higher processors and lower effective bandwidths. There is no teaching, suggestion or motivation within the Takagi I reference or the Takagi II reference for any solution to these wireless system issues, nor are they even remotely addressed.

The Examiner, in Section 2 of the March 8, 2006 Office Action, concludes that the first maximum transmission size unit and the second transmission size unit recited in Claim 1 are in fact distinct. Applicants agree. Claim 1 clearly distinguishes between the two maximum transmission unit sizes by reciting the differences in the *relative direction* of data transmission for each of the two maximum transmission unit sizes. For example, the first maximum transmission unit size is used

DOCKET NO. 2001.11.010.WT0
U.S. SERIAL NO. 09/930,665
PATENT

specifically for intercepted traffic *forwarded to the packet network*. The second maximum transmission unit size, on the other hand, is used for specifically for intercepted traffic *forwarded to the wireless link*. In other words, the specific maximum transmission unit size used to reformat the intercepted traffic is related to where the traffic is being forwarded to.

More importantly, the references cited in support of the rejection, whether taken individually or in combination, fail to disclose all elements required by Claim 1. For example, the Takagi I reference discloses a system directed to *unidirectional* transfers of data packets from *a server terminal to a client terminal* in an asymmetric access network in which the bandwidth from server terminals to client terminals is much wider than the bandwidth from client terminals to server terminals. The Takagi I reference, column 3, lines 20-65. The Takagi I reference teaches: (1) *receiving* TCP segments having a first size on a network interface; and (2) *outputting* TCP segments having a larger size on to a client interface. *Id.* at column 3, lines 36-46. The Takagi I reference and the Takagi II reference, however, fail to disclose, teach or suggest, for example, transmitting TCP segments *transmitted to the network from the network interface* or any disclosure, teaching or suggestion of the size of such TCP segments *transmitted to the network from the network interface*. Accordingly, there is no teaching or disclosure within the Takagi I reference or the Takagi II reference of a first maximum transmission unit size for *intercepted traffic forwarded to the packet network* and a second maximum transmission unit size for *intercepted traffic forwarded to the wireless link*, as required by Claim 1.

DOCKET No. 2001.11.010.WT0
U.S. SERIAL No. 09/930,665
PATENT

Moreover, there is no suggestion or motivation within the Takagi I reference or the Takagi II reference to combine discrete elements from these references and then *seek out* still other discrete elements as required by Claim 1 and ultimately by its dependants Claims 3-7. Similar arguments hold true for independent Claim 8 and ultimately by its dependants Claims 10-14. Accordingly, Applicants respectfully request the withdrawal of the rejection in its entirety.

In Sections 7 and 8 of the March 8, 2006 Office Action, the Examiner rejected Claims 1-4, 6-11, 13 and 14 as unpatentable over the Mulligan reference in view of the Lettieri reference. Applicants respectfully disagree.

As an example, the Examiner apparently contends that the Mulligan reference teaches *a first maximum transmission unit size for intercepted traffic forwarded to the packet network and a second maximum transmission unit size for intercepted traffic forwarded to the wireless link*, as required by Claim 1. The Mulligan reference, however, discloses a system for generating packets for transmission over different routes on a network. Mulligan reference, Abstract & column 4, lines 13-19. Initially, the Mulligan reference teaches determining a maximum transmission unit (MTU) capable of being transmitted over a predetermined route. *Id.* at column 4, lines 19-23. The Mulligan reference goes on to teach that the MTU size is determined by querying the nodes along a given route over the Internet at predetermined time intervals to determine the path MTU (PMTU). *Id.* at column 4, lines 19-23; column 8, lines 34-52; and column 9, lines 7-12. Thus, the Mulligan reference discovers several MTU values during the data transmission between a source and a host. *Id.* at column 9, lines 7-12. There is no teaching, suggestion or motivation within the Mulligan reference

DOCKET NO. 2001.11.010.WT0
U.S. SERIAL NO. 09/930,665
PATENT

of discovering and/or using any MTU sizes related to wireless networks. The Mulligan reference, thus, fails to disclose a second maximum transmission unit size *for intercepted traffic forwarded to the wireless link*, as required by Claims 1 and 8.

The Lettieri reference, on the other hand, discloses the impact of media access control (MAC) layer frame lengths (which correspond to the maximum transmission unit (MTU)) transmitted through a wireless link. The Lettieri reference, p. 564, second column. The Lettieri reference specifically teaches that the correct MTU choice is specific to every wireless hop. *Id.* at p. 565, first column, first full paragraph. Contrary to the Examiner's contention on page 7 of the March 8, 2006 Office Action, the Lettieri reference goes on to specifically state that such systems would require constant user intervention and thus proposes to instead make changes to the data link layer. *Id.* at third and fourth full paragraphs. Specifically, the Lettieri reference proposes inserting below the IP layer a fragmentation and reassembly entity that fragments IP packets at the transmitter according to the current channel conditions and reassembles them at the receiver. *Id.* at fourth full paragraph. Thus, the Lettieri reference fails to teach a packet relay controller that re-formats the intercepted traffic between a wireless link and a packet network to employ *a first maximum transmission unit size for intercepted traffic forwarded to the packet network and a second maximum transmission unit size for intercepted traffic forwarded to the wireless link*, as required by Claim 1. Applicants also note that even if the Lettieri reference taught discovery of a proper MTU value at each intermediate node, Claim 1 of the present application specifically states "[f]or use in a communication system

DOCKET NO. 2001.11.010.WTO
U.S. SERIAL NO. 09/930,665
PATENT

coupled to a packet network lacking packet aggregation and fragmentation at intermediate nodes therein[.]”

Accordingly, neither the Mulligan reference or the Lettieri reference, taken individually or in combination, teaches or makes obvious, for example, a packet relay controller intercepting traffic between the wireless link and the packet network and re-formatting the intercepted traffic to employ *a first maximum transmission unit size for intercepted traffic forwarded to the packet network and a second maximum transmission unit size for intercepted traffic forwarded to the wireless link*, as required by Claims 1 and 8. Moreover, there is no suggestion or motivation within the Mulligan reference or the Lettieri reference to prompt one of ordinary skill to selectively and non-inventively combine and then seek out still other discrete elements as also required by Claims 1 and 8. Claims 1 and 8, and their dependants Claims 2-4, 6 and 7 and Claims 11, 13 and 14, respectively, therefore contain unique and non-obvious limitations over the art cited and are thus patentably distinguishable. Accordingly, Applicants respectfully request favorable reconsideration of Claims 1-4, 6-11, 13 and 14 and the withdrawal of the §103 rejection.

In Section 9 of the March 8, 2006 Office Action, the Examiner rejected Claims 15-20 as unpatentable over the Ketcham reference in view of U.S. Patent No. 6,728,365 to *Li, et al.* (the “Li reference”). Applicants respectfully disagree.

Neither the Ketcham reference or the Li reference, taken individually or in combination, teaches or makes obvious, for example, a method of improving bandwidth utilization comprising intercepting traffic from a wireless link to the packet network; re-formatting the intercepted traffic to

DOCKET NO. 2001.11.010.WTO
U.S. SERIAL NO. 09/930,665
PATENT

employ a first maximum transmission unit size different than a second maximum transmission unit size of the intercepted traffic; forwarding the re-formatted traffic to the packet network; intercepting traffic from the packet network to the wireless link; and *re-formatting the intercepted traffic from the packet network to the wireless link to employ the second maximum transmission unit size*, as required by amended independent Claim 15. Moreover, there is no suggestion or motivation within the Ketcham reference or the Li reference to prompt one of ordinary skill to selectively and non-inventively combine and then *seek out* still other discrete elements as also required by amended Claim 15. Claim 15 and its dependants Claims 16-20, respectively, therefore contain unique and non-obvious limitations over the art cited and are thus patentably distinguishable. Accordingly, Applicants respectfully request favorable reconsideration of Claims 15-20 and the withdrawal of the §103 rejection.

DOCKET No. 2001.11.010.WT0
U.S. SERIAL NO. 09/930,665
PATENT

SUMMARY

For the reasons given above, Applicants respectfully request reconsideration and allowance of the pending claims and that this application be passed to issue. If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *jmockler@munckbutrus.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

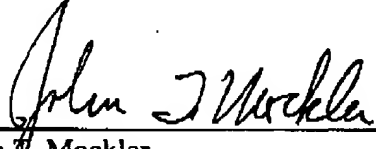
Respectfully submitted,

MUNCK BUTRUS, P.C.

Date: _____

4 May 2006

P.O. Drawer 800889
Dallas, Texas 75380
Phone: (972) 628-3600
Fax: (972) 628-3616
E-mail: *jmockler@munckbutrus.com*



John J. Mockler
Registration No. 39,775